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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/516,079	11/02/2005	Vernon L Alvarez	2006636-0026	2000

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CHOATE, HALL & STEWART LLP
TWO INTERNATIONAL PLACE
BOSTON, MA 02110

EXAMINER

NIEBAUER, RONALD T

ART UNIT	PAPER NUMBER
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1654

NOTIFICATION DATE	DELIVERY MODE
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01/07/2010

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/516,079	Applicant(s) ALVAREZ ET AL.	
	Examiner RONALD T. NIEBAUER	Art Unit 1654	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 November 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4,9,18 and 22-28 is/are pending in the application.
- 4a) Of the above claim(s) 22-28 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4,9,18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Applicants amendments and arguments filed 10/13/09 and supplemental amendment filed 11/23/09 are acknowledged and have been fully considered. Any rejection and/or objection not specifically addressed is herein withdrawn.

Applicant's previously elected SEQ ID NO:1 (native chlorotoxin, compare page 10 line 18 of the specification) as the chlorotoxin derivative and temozolomide as the chemotherapeutic agent (without traverse) in the reply filed on 10/17/07. In the instant case, the elected species were found in the prior art and the claims were found to be unpatentable (via 35 USC 103) over the prior art. In the course of searching for the species, any other prior art that was uncovered that reads on other species is cited herein. In accord with section 803.02 of the MPEP the claims have been examined fully with respect to the elected species.

Since applicant elected SEQ ID NO:1 (native chlorotoxin) as the chlorotoxin derivative, the derivatives of claims 22-28 are to non-elected derivatives.

Claims 22-28 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 10/17/07.

Claims 5-8,10-17,19-21 have been cancelled.

Claims 1-4,9,18 are under consideration.

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Claim Rejections - 35 USC § 103

Claims were rejected under 103 using the references cited below in the previous office action. Since the claims have been amended, the rejection has been updated to correspond to the instant claims.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-4,9,18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Samoylova et al. (US 2003/0216322 as cited previously) and Stupp et al. (The Lancet v2 Sept 2001 552-560 as cited previously).

Samoylova teach peptides for recognition and targeting of glial cell tumors (title) and compositions comprising peptides for therapy of cancer cells (abstract). Samoylova teach that the

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peptides of the invention are broadly defined to be peptides that bind glioma cells (section 0032 for example). Samoylova teach that the peptides may be used to target chemotherapeutic agents to treat gliomas (sections 0065-0066). Samoylova teach a need for therapies for brain tumor patients (section 0008) and specifically teach patient populations with glioblastomas (section 0004). Samoylova teach specific compositions comprising a peptide and a chemotherapeutic agent (claim 4, section 0068). Samoylova teach the administration of a peptide conjugated to methotrexate (a chemotherapeutic agent specifically an anti-metabolite) in example 3 (section 0132). In addition to simultaneous administration via a conjugate, Samoylova teach compositions in which the peptide and chemotherapeutic agent are not conjugated to one another (section 0068). Samoylova teach compositions with a pharmaceutically acceptable carrier (section 0069).

Samoylova et al. does not expressly recite an embodiment with chlorotoxin as the peptide (instead Samoylova teach phage derived peptides). Samoylova does not expressly teach the chemotherapeutic agent temozolomide.

Samoylova does teach chlorotoxin (section 0010) (equivalent to SEQ ID NO:1 of the current invention, the elected species of chlorotoxin) as a peptide that specifically binds to glioma cells and that the chlorotoxin peptide shows high-affinity specific binding to gliomas and may find use in therapeutic applications. Since Samoylova teach that the peptides of the invention are broadly defined to be peptides that bind glioma cells (section 0032 for example) one would recognize that the peptides are not limited to the peptides recited in the examples or claims. Since Samoylova teach chlorotoxin as a peptide that specifically binds to glioma cells

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and that the chlorotoxin peptide shows high-affinity specific binding to gliomas (section 0010) one would be motivated to use the chlorotoxin as the peptide of the instant invention. Further it is noted that Samoylova acknowledge that an array of markers will be necessary for targeting gliomas so one would be motivated to use various peptides (section 0013).

Since Samoylova teach a need for therapies for brain tumor patients (section 0008) and specifically teach patient populations with glioblastomas (section 0004) one would be motivated to treat those with glioblastomas (also known as glioblastoma multiforme). Since Samoylova teach that the peptides may be used to target chemotherapeutic agents to treat gliomas (section 0065) and specifically teach administration of a peptide conjugated to methotrexate (a chemotherapeutic agent specifically an anti-metabolite) in example 3 one would be motivated to incorporate an appropriate agent to target glioblastomas.

Stupp teach the administration of the alkylating agent/chemotherapeutic agent temozolomide (abstract). Stupp specifically teach temozolomide for brain tumours and glioma (abstract). Stupp teach temozolomide with other active agents against brain tumours (abstract and page 557-558). Stupp specifically teach that temozolomide can be used sequentially with other agents (page 557 1st column last paragraph) and also in a variety of combination dosing schedules (page 557-558), and in combination with more than one agent (page 558 first column last paragraph).

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One would have been motivated to combine the chemotherapeutic agent temozolomide as taught by Stupp into the method/compositions of Samoylova since both references deal with therapeutics specifically of brain tumors. Both references motivate the use of combination therapies.

Taken together one would be motivated to administer a composition comprising chlorotoxin which reads on SEQ ID NO:1 of the instant invention and temozolomide which is an alkylating agent combined as a conjugate to those with glioblastomas (also known as glioblastoma multiforme) thus meeting the limitations of claims 1,4,9,18 of the instant invention. It is noted that claim 9 recites 'for treating cancer'. Such recitations do not result in a structural difference and do not limit the instant claims, thus the references obviate the instant claims. In addition to simultaneous administration via a conjugate, Samoylova teach compositions in which the peptide and chemotherapeutic agent are not conjugated to one another (section 0068) thus meeting the limitations of claims 2-3 of the instant invention. Samoylova teach compositions with a pharmaceutically acceptable carrier (section 0069). Since Stupp specifically teach that temozolomide can be used sequentially with other agents (page 557 1st column last paragraph) and also in a variety of combination dosing schedules (page 557-558), and in combination with more than one agent (page 558 first column last paragraph) one would be motivated to conjugate the chlorotoxin to multiple chemotherapeutic agents.

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From the teachings of the references, it is apparent that one of ordinary skill in the art would have had a reasonable expectation of success in producing the claimed invention.

Therefore, the invention as a whole was *prima facie* obvious to one of ordinary skill in the art at the time the invention was made, as evidenced by the references.

Further, it is noted that it is obvious to combine known elements to be used for the same purpose and that the motivation to combine them flows logically from their being taught in the prior art (MPEP 2144.06). In the instant case, both chlorotoxin and temozolomide were each individually taught in methods and compositions for treating brain tumors.

Response to Arguments 103 rejection

In the reply filed 10/13/09 applicants argue (pages 10-11) that there is not motivation to combine the references.

Applicants argue that Samoylova disparages chlorotoxin.

In the reply filed 11/23/09 applicants argue (page 5-6) that applicants provide 6,870,029.

Applicants argue that figure 8 of 6,870,029 shows that chlorotoxin increased cell proliferation.

Applicants argue that Figure 2 and example 3 of the instant specification show synergistic effect and that chlorotoxin alone does not have an effect although not all controls are shown.

Applicant's arguments filed 10/13/09 and 11/23/09 have been fully considered but they are not persuasive.

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Although applicants argue (pages 10-11) that there is not motivation to combine the references, Samoylova teach a need for therapies for brain tumor patients (section 0008) and specifically teach patient populations with glioblastomas (section 0004). Stupp specifically teach temozolomide for brain tumours and glioma (abstract). The nature of the problem to be solved is motivation. Section 2143G of the MPEP states: “The Courts have made clear that the teaching, suggestion, or motivation test is flexible and an explicit suggestion to combine the prior art is not necessary. The motivation to combine may be implicit and may be found in the knowledge of one of ordinary skill in the art, or, in some cases, from the nature of the problem to be solved. *Id.* at 1366, 80 USPQ2d at 1649.”

Although Applicants argue that Samoylova disparages chlorotoxin, section 2123 of the MPEP states that references may be relied upon for all that they suggest include nonpreferred embodiments. In the instant case, Samoylova expressly teach that the chlorotoxin peptide shows high-affinity specific binding to glioma cells and may find use in therapeutic applications (section 0010). Although applicants argue that section 0012 of Samoylova is disparaging, section 0012 simply suggests that no single marker will be able to target all gliomas and that an array of markers will be necessary. Since an array (i.e. more than one) of markers will be needed one would not be limited to a single marker and would be motivated to use various markers such as chlorotoxin. Further, it is noted that section 0012 refers to diagnosis while section 0010 refers to therapies which are not necessarily the same.

Although applicants argue (page 5-6) that applicants provide 6,870,029, no such document has been found in the case history nor cited on an IDS.

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Although Applicants argue that figure 8 of 6,870,029 shows that chlorotoxin increased cell proliferation, it is first noted that 6,870,029 expressly teach the use of chlorotoxin for therapeutic applications to treat gliomas (column 6 lines 18-30, 47-56, example 18). With regard to figure 8, it is noted that AraC is used at a concentration of 10 micromolar, while chlorotoxin is used at a concentration of 600 nanomolar (i.e. 0.6 micromolar) (column 4 last paragraph). Further, it is noted that figure 8 appears to only show data for a single cell type at a single concentration. With such a large discrepancy in the amounts of the agents used (10 micromolar for AraC and 0.6 micromolar for chlorotoxin), it is not unexpected that AraC shows a significant effect while chlorotoxin does not. Dose-dependent behavior is a well-known phenomenon. It is noted that section 2143.01 II of the MPEP states that if teachings of the prior art conflict that the examiner should weigh the suggestive power of the references. 6,870,029 expressly teach the use of chlorotoxin for therapeutic applications (column 6 lines 18-30, 47-56, example 18). Thus, the single experiment using a single cell type at a single concentration as shown in figure 8 does not discourage the authors of 6,870,029 from teaching the use of chlorotoxin (see column 6 lines 18-30, 47-56, example 18 and the claims). Thus 6,870,029 expressly teach the use of chlorotoxin. Samoylova does teach chlorotoxin (section 0010) (equivalent to SEQ ID NO:1 of the current invention, the elected species of chlorotoxin) as a peptide that specifically binds to glioma cells and that the chlorotoxin peptide shows high-affinity specific binding to gliomas and may find use in therapeutic applications. Since Samoylova teach that the peptides of the invention are broadly defined to be peptides that bind glioma cells (section 0032 for example) one would recognize that the peptides are not limited to the peptides recited in the examples or claims. Since Samoylova teach chlorotoxin as a peptide that specifically binds to glioma cells and that the

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chlorotoxin peptide shows high-affinity specific binding to gliomas (section 0010) one would be motivated to use the chlorotoxin as the peptide of the instant invention. Thus Samoylova expressly teaches the use of chlorotoxin. Since both 6,870,029 and Samoylova teach the use of chlorotoxin and specifically for therapeutic applications to treat gliomas one would not be deterred to use chlorotoxin in such fashion.

Although Applicants argue that Figure 2 and example 3 of the instant specification show synergistic effect and that chlorotoxin alone does not have an effect although not all controls are shown, it is first noted that section 716.02(b) of the MPEP states that the burden is on the applicant to establish that the results are unexpected and significant. Applicants admit that not all controls are shown which makes it difficult to ascertain whether or not the data is unexpected. Further, the specific doses that are used for the combination treatment are not clearly set forth. In the instant case, it appears that the effects are merely additive and not synergistic. Figure 2 shows that temodar (triangles) alone decreases tumor size. Since the actual data points are indiscernible for sake or argument we will say that temodar decreases tumor volume by an amount T^* . Figure 2 shows that chlorotoxin (squares) alone decreases tumor size. Since the actual data points are indiscernible for sake or argument we will say that chlorotoxin decreases tumor volume by an amount C^* . When temodar and chlorotoxin are combined one would expect that they decrease tumor size by a value of $T^* + C^*$, which appears to be what happens. In other words, figure 2 seems to show that the decrease in tumor volume is dose-dependent. A dose of temodar decreases tumor volume by an amount T^* . A dose of chlorotoxin decreases tumor volume by an amount C^* . A combined dose of temodar and chlorotoxin decreases tumor by a value of $T^* + C^*$. Synergy, by definition (see MPEP section 716.02(a)), requires that the effect of the whole be

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much greater than the effect of the individual parts. There is no basis to say that the effects of the combination dosage are greater than the individual doses. For example, at day 55 figure 2 shows that saline treatment has a value of approximately 1200. Treating with chlorotoxin or temodar reduces the value to about 600 (a reduction of 600 from the 1200 baseline of saline). Thus one would expect that chlorotoxin combined with temodar would each reduce 600 to a value of approximately 0 which is the result as shown. Based on the data shown, the result is not synergistic (see MPEP section 716.02(a)), nor is the result unexpected.

Double Patenting

Claims were rejected based on the applications and references cited below in the previous office action. Since the claims have been amended, the rejection has been updated.

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

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Claims 1-4,9,18 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 42-49 of copending Application No. 10/522,810 ('810) in view of Stupp et al. (The Lancet v2 Sept 2001 552-560) and Samoylova et al. (US 2003/0216322 as cited previously).

'810 teach administration of SEQ ID NO:13 (the same SEQ ID NO:13 as in the instant invention) to prostate cancer cells and gliomas (claims 42,47) thus meeting the patient population and chlorotoxin derivative limitations as recited in the instant claims. '810 teach a composition conjugated to a cytotoxic agent for binding to cancer cells (claim 48).

'810 does not teach the specific cytotoxic agent of the current invention.

Stupp specifically teach temozolomide compositions for brain tumours and glioma (abstract). Stupp teach temozolomide with other active agents against brain tumors (abstract and page 557-558). Stupp teach that temozolomide is a cytotoxic agent (page 553 2nd full paragraph line 13). Since '810 teach gliomas one would be motivated to use agents against gliomas such as temozolomide as taught by Stupp. Since '810 teach linking the agent (claim 48) the limitations of claims 1,4-6,9-12,18,20 are met. Further, as discussed above, Samoylova teach compositions in which the peptide and chemotherapeutic agent are not conjugated to one another (section 0068) thus meeting the limitations of claims 2-3 of the instant invention. . Samoylova teach compositions with a pharmaceutically acceptable carrier (section 0069) as recited in claim 19. Since Stupp specifically teach that temozolimide can be used sequentially with other agents (page 557 1st column last paragraph) and also in a variety of combination dosing schedules (page 557-558), and in combination with more than one agent (page 558 first column last paragraph)

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one would be motivated to conjugate the chlorotoxin to multiple chemotherapeutic agents as recited in claim 21.

This is a provisional obviousness-type double patenting rejection.

Claims 1-4,9,18 remain provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 4,11,30-48 of copending Application No. 11/731,661 ('661) in view of Samoylova et al. (US 2003/0216322) and Stupp et al. (The Lancet v2 Sept 2001 552-560).

'661 teach a method of administering a chlorotoxin conjugate (claim 4) and a chemotherapeutic agent (claim 23) to patients with lung carcinoma.

As discussed above, Samoylova and Stupp teach the remaining claim limitations. In the instant case, all the claimed elements were taught in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions and the combination would have yielded predictable results to one of ordinary skill in the art at the time of the invention.

This is a provisional obviousness-type double patenting rejection.

Claims 1-4,9,18 remain provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 4,21 of copending Application No. 11/547,875 ('875) in view of Stupp et al. (The Lancet v2 Sept 2001 552-560) and Samoylova et al. (US 2003/0216322).

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‘875 teach administration of a composition comprising chlorotoxin (claim 4) and a cytotoxic agent (claim 35,43,44) to patients with cancer.

As discussed above, Samoylova and Stupp teach the remaining claim limitations. In the instant case, all the claimed elements were taught in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions and the combination would have yielded predictable results to one of ordinary skill in the art at the time of the invention.

This is a provisional obviousness-type double patenting rejection.

The claims as specified above are directed to an invention not patentably distinct from the claims specified above of commonly assigned 10/522,810; 11/731,661; 11/547,875.

Specifically, see above.

The U.S. Patent and Trademark Office normally will not institute an interference between applications or a patent and an application of common ownership (see MPEP Chapter 2300). Commonly assigned 10/522,810; 11/731,661; 11/547,875, discussed above, would form the basis for a rejection of the noted claims under 35 U.S.C. 103(a) if the commonly assigned case qualifies as prior art under 35 U.S.C. 102(e), (f) or (g) and the conflicting inventions were not commonly owned at the time the invention in this application was made. In order for the examiner to resolve this issue, the assignee can, under 35 U.S.C. 103(c) and 37 CFR 1.78(c), either show that the conflicting inventions were commonly owned at the time the invention in this application was made, or name the prior inventor of the conflicting subject matter.

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A showing that the inventions were commonly owned at the time the invention in this application was made will preclude a rejection under 35 U.S.C. 103(a) based upon the commonly assigned case as a reference under 35 U.S.C. 102(f) or (g), or 35 U.S.C. 102(e) for applications pending on or after December 10, 2004.

Response to Arguments Double Patenting

Applicants request that the rejections be held in abeyance.

Applicant's arguments filed 10/13/09 have been fully considered but they are not persuasive.

Although Applicants request that the rejections be held in abeyance, the outstanding double patenting rejections have not been overcome. As such, the claims are rejected.

Conclusion

The 103 and double patenting rejections appeared in the previous office action. Thus there are no new rejections.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

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CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to RONALD T. NIEBAUER whose telephone number is (571)270-3059. The examiner can normally be reached on Monday-Thursday, 7:30am-5:00pm, alt. Friday, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cecilia Tsang can be reached on 571-272-0562. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Anish Gupta/
Primary Examiner, Art Unit 1654

/Ronald T Niebauer/
Examiner, Art Unit 1654